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LITHOGRAPHIC ABSTRACTS, OCTOBER 1960

PHOTOGRAPHY, TONE & COLOR CORRECTION

*CAN THE COLOUR SEPARATION NEGATIVE FOR THE BLACK PRINTER BE IMPROVED? K. Pallmar. Form u. Technik, vol. 10, no. 8, August 1959, pp. 325-7 (in German); Printing Abstracts 15, No. 3, March 1960, p. 198. The possibility of improving the separation negative for the black printer in the reproduction of paintings by purely photomechanical means using infrared film is described. The copy must be painted with colours which do not absorb infrared. The Gevaert Plates P3 and IR Process 14 3454 used. The process cannot be used for colour transparencies.

*A KLISCHOGRAPH NOW ALSO FOR OFFSET. F. Firnig. Klischograph, vol. 4, no. 2, 1959, pp. 11-2 (in German); Printing Abstracts 15, No. 2, February 1960, p. 105. In the first process, proofs are taken from the engraved plate on coated art paper, a laterally reversed negative made in a camera and the negative printed down on to the offset plate. The second process uses special engraving films consisting of a plastics backing with a covering layer. Engraving through this covering layer gives a laterally reversed, electronically corrected screen positive which can be printed down directly. The process is rapid and dimensionally stable. However a long exposure is required. If hand correction is required, the screen positive is copied on to film with a thin backing and intensified or reduced. The film is then printed down on to the offset plate. Changes in dimensions are effected in a camera. However, owing to the change in screen thereby produced, it is better to do it in the Vario-Klischograph. Examples show three-colour offset printing 1:1 by the first process and four-colour offset printing 1:3 by the second process.

HOW PAPER FACTORS CAN INFLUENCE PRINTED COLOR. Frank Preucil. Inland & American Printer & Lithographer 145, #2, May 1960, p. 56 (1 page). A brief discussion of relation of paper color to process color printing. Cream white papers favor flesh tints, degrade skies. Blue dyes added gray the paper but help on skies. Fluorescent brightened papers help if the fluorescence is not overdone.

THE "COLOR ANALYZER" AND ITS APPLICATIONS IN THE INK INDUSTRY. Heinz E. Lange. American Ink Maker 38, No. 5, May 1960, pp. 60,1,2,4,7,137 (6 pages). An explanation is given for the CIE Chromaticity Diagram and its uses. The Bausch and Lomb "Color Analyzer" in the form of a reflection attachment for a colorimeter is described. A series of experiments to explore the usefulness of this instrument in color analysis work with ink is well illustrated with graphs of spectral distribution under various experimental conditions. [illegible] illustrations.

DEVELOPER IN ROLLS. Herbert P. Paschel. Photo Methods for Industry 3, No. 6, June 1960, p. 60 (1 page). Discusses the possibilities of automatic development of graphic arts films by a method similar to the Polaroid Land Camera and other diffusion transfer processes. Specialties, Inc., Syosset, New York has worked out such processing for 16 and 35 mm films.

SELECTING THE RIGHT SCREEN TINT. Herbert P. Paschel. Modern Lithography 28, No. 5, May 1960, pp. 88, 9, 143 (3 pages). Answer to question on why tint values on paper varied even when the same piece of tint film is used. Apparent tone is influenced by other factors, including: Paper surface (coated or offset), Ink film density, sharpening or spreading of dots in platemaking, and effect background and adjacent areas. The use of a series of tint charts representing different conditions is suggested.

GAS-BURST AGITATION. F. G. Wallis. The Litho-Printer 3, No. 7, July 1960, pp. 360, 362 (2 pages). In order to have repeatable results in the development of photographic materials, temperature control and uniform agitation are needed. An effective way to control agitation is by periodic bursts of bubbles of chemically inert nitrogen. The timing apparatus and gas distribution are discussed, described and illustrated. 3 Illustrations.

A DEMONSTRATION OF COLOR PERCEPTION WITH ABRIDGED COLOR-PROJECTION SYSTEMS. C. S. McCamy. Photographic Science and Engineering 4, No. 3, May-June, 1960, pp. 155,6,7,8,9 (5 pages). The way primary colors combine to produce colored pictures was demonstrated. The range of colors perceived when less than three primaries were used was attributed to the known psychological effects of induction by contrast, color constancy by discounting of the illuminant, and memory color, all of which were demonstrated. The reproduction characteristics of two-color systems were demonstrated, and a direct comparison was made between a two-color and a three-color reproduction of the same scene.

THE GEVAERT MULTIMASK SYSTEM. Herbert P. Paschel. Modern Lithography 28, No. 6, June 1960, pp. 34-35 (2 pages). Transparencies are about 75% of color copy for reproduction. Some history of masking systems for transparency copy includes something on the Agfa Kom-Bi film. The Gevaert Multimask system provides in one film a mask which corrects unwanted dye absorptions of the multi-layer original but provides correction for ink deficiencies as well. The masking film has 3 layers, each with a definite selected color sensitivity and inherent contrast with different color-forming components for each layer. Diagrams show how this works out as the equivalent of a three mask system which can be used for contact or projection in several ways. Now in use in Europe, to be introduced in U.S. in late 1960. 3 Figures, 3 References.

MAGENTA CONTACT SCREEN FOR GRAVURE. L. E. Goda, Jr. Gravure 6, No. 1, January 1960, pp. 14,15,54 (3 pages). Advantage of contact screens are cited as: suitability for the hard dot process, control of tone reproduction, simplicity in use, and speed. The magenta screen has advantages for gravure use in the control of tone reproduction by use of a colored filter or a flash. The steps in the use of the screen are described. At present a few screens are being made in the Kodak Research Laboratory and are undergoing field trials. 2 Illustrations.

PROGRESS IN REPRODUCTION TECHNIQUES. J. J. Butler. Perspective 2, No. 2, 1960, pp. 159, 60, 1,2,3,4,5,6 (8 pages). A general survey of the photographic end of the graphic arts as practiced in Great Britain. The newer materials and techniques in use are described, including scanning methods for colour correction. Powderless engraving of magnesium and the photopolymerizable plastic plates are included. 21 References.

IS TRUE COLOR REPRODUCTION POSSIBLE? Joe Snyder and Lloyd Varden. Print 13, No. 4, July-August, 1959, pp. 55,56,57 (3 pages). "Color perception is complex and not always explainable." The spectrum contains 100 to 150 discernible colors, the normal human being can recognize over 10,000,000 distinct colors. Confusion exists, in terminology and elsewhere. Chromatic adaptation is explained, and used to explain some phenomena. Color reproduction is then discussed in terms of exactness, accuracy, and a realistic impression. 3 Illustrations.

THE RIGHT PAPER SHARPENS COLOR IMPACT. Rudolf Schaefer. Print 13, No. 4, July-August, 1959, pp. 58-59 (2 pages). Report on a series of experiments conducted for the maker of a fluorescing paper additive which produced "whiter than white" papers. Various colors were tried against papers with and without the additives, particularly

in packaging. The tests were apparently wholly subjective and indicated that most of the colors showed up better on the fluorescing papers. (Evidently no process color illustrations were involved.)

DENSITY. Lloyd E. Varden. Photo Methods for Industry 3, No. 3, March 1960, pp. 34,5,6,7 (4 pages). A simplified explanation of optical density. The relationships between transmission (or transmittance), opacity and density are explained with examples. The convenience of the logarithmic character of density in adding densities is pointed out. Diagrams are used to make clear the distinctions between totally diffuse density, doubly diffuse density, and specular density; and their influence in printing is pointed out. 7 Illustrations.

Gevaert Multimask Film - WHAT IT IS - HOW IT WORKS. Anon. Reprorama 10, 1959, pp. 4,5,6,7 (4 pages). Multimask film is a special kind of color film made up of 3 emulsion layers and a yellow filter layer. By coupling development a color negative is produced. The colors differ from normal color negatives, being planned for the purpose of binding with the original transparency to provide automatic masking during color separation. All of this is explained in detail with the aid of numerous illustrations and diagrams in black and white and color. A somewhat different system for use with opaque color originals is likewise explained and illustrated. For this operation a vacuum back incorporating a register system is required.

COLOUR REPRODUCTION - Part II - THE PRINCIPLES OF COLOUR PRINTING. L. E. Lawson. The British Ink Maker 2, No. 3, May 1960, pp. 24,5,6,7 (4 pages). In a discussion of whether photomechanical color reproduction is additive or subtractive, author considers that it can be either; but considers the idea of its being subtractive in the deeper tones, additive in the lighter as being confusing. Author considers "the process is more readily and generally visualized as being subtractive on principle." The need for precision measurements leads to a brief discussion of densitometry and tone reproduction. Discussion of colour reproduction theory and of whiteness, gloss and opacity of papers covers more of the terms used in color printing. One graph.

QUALITY MEASUREMENT OF PRINTED MATERIAL. Otto C. Stoessel. National Lithographer 67, No. 6, June 1960, pp. 36,7, 60, 72 (4 pages). A system for sampling and measuring printed color for quality control purposes is described. It is based on a Frequency Distribution Analysis Sheet developed for quality control purposes by North American Aviation, Inc., which simplifies the establishment of quality control standards and upper and lower control limits. 2 Illustrations.

G. H. Lytle.

IS OUR PLANT READY FOR OFFSET PROCESS COLOR? Part 2 - CRAFTSMANSHIP. The American Pressman 70, No. 6, June 1960, pp. 44-45 (2 pages). This installment outlines some requirements to consider in the selection of personnel. One desirable feature is skill in black and white process. Some of the work at the Technical Trade School (union supported) in conducting correspondence courses is described. Six Illustrations.

*NEW TECHNIQUE OF COLOR REPRODUCTION OR NEW THEORY OF COLOR VISION? W. Richter. Photo-Technology, 10, December 1959, pages 559060; Ansco Abstracts, Vol. 20, No. 1, January 1960, page 1. The observation by Land (abstract 544/59) of a surprising multitude of colors with red and green color separations only will not lead to a replacement of the present color theories, but will contribute to their further development. None of the 2-color processes of the past has survived, nor has Land considered any technical application of this sort. The frequently cited "classical theory" can deal only with the equality of color impressions, but not with color sensations, such as the effect of a contrasty surround color. The failure of others

in the duplication of Land's experiments may be due to lack of the optimal conditions (selection of subject, density and gradation of the color separations, projection conditions).

*DEVICE FOR DETERMINING COLOR. U. S. Patent 2,928,310 - Application March 9, 1955. John S. Christie - Assigned to Proctor & Schwartz, Inc. Official Gazette 752, No. 3, March 15, 1960, p. 587. In a color testing system, a light source containing light of all colors involved in a sample to be tested, means for dividing the light from said source into two differently-plane polarized light beams, polarizing means in each beam effective to cause the beam to vary sinusoidally in light intensity 90° out of phase with one another, means for disposing the sample to be tested in the path of one of said beams, power-driven rotatable color filter means for sequentially converting the light from said source to different colors, rotationally adjustable plane polarizing means adapted to be effective upon the intensity of the beam other than the one in which the sample is located, means for defining different predetermined positions of said polarizing means, and means operable synchronously with said color filter means for sequentially establishing said positions of said polarizing means, thereby to establish predetermined light transmission in the other of said beams for each of said colors.

PLANOGRAPHIC PRINTING PROCESSES

OFFSET PRESSMEN SHOULD KNOW HOW TO MAKE PLATES. Anon. The Inland and American Printer and Lithographer 144, No. 6, March 1960, pp. 80, 83 (2 pages). Only a few pressmen know how to gum a plate or why it is done. Even fewer know how to re-desensitize a plate or restore a failing image. Skill and practice are required in etching and gumming plates. A step-by-step procedure is given for remaking the plate (surface or deep etch) right on the press.

DAMPENING SYSTEMS - Chapter 22 of THE HOW AND WHY OF CARTON LITHOGRAPHY. John L. Jachimiec. Boxboard Containers 78, No. 811, July 1960, pp. 49,50,51 (3 pages). Author first explains why dampening is required on a lithographic press, then describes the conventional system in some detail. Modifications, such as paper dampener roll covers, the 3M Dampening system, and the Dahlgren system are explained. 4 Illustrations.

AMS HAS SUCCESS WITH PRE-TREATED RUB-ON PLATE. Michael J. Geary. Modern Lithography 28, No. 5, May 1960, pp. 46,7,8,9 (4 pages). Army Map Service gets runs up to 100,000 with a pre-treated aluminum plate used with diazo rub-on coating. Time and money are saved and the graining process is all but eliminated. The method is the result of research starting in 1952 leading to practical use since 1958. The pretreatment is brush graining and a diazo coating is rubbed on by hand. A ten step coating procedure is described. Advantages listed: 1. Runs in excess of 40,000. 2. Elimination of grainers and whirlers. 3. Produces sharper printing with less ink, water and paper problems. 4. Adaptable for field operations. 5. Cuts list of supply items. 10 Illustrations

RESEARCH ON REJECTED PLATES. A. G. Arend. The Litho-Printer 3, No. 7, July 1960, pp. 347-348 (2 pages). Some causes for plate wear are given. Also important are break-downs or spoilage on the press due to causes other than wear and some of these are given and discussed. This includes lack of control on ink-water balance and suggestions are offered on this.

"AQUA CHECK". Frank H. Smith. The Lithographer and Offset Printer 56, No. 6, June 1960, pp. 9,10,12,13 (4 pages). The necessity for freedom from water in alcohol used in

platemaking is pointed out, also the tendency for alcohol to take up water from the atmosphere is recalled. It is pointed out that a new 'Aqua Check Kit' is available which distinguishes between alcohols which are safe and those with too much water. The relationship of the use of alcohol in platemaking to the blinding of plates is mentioned briefly.

INK EMULSIFICATION TESTER. D. I. Fothergill. The Lithographer and Offset Printer 56, No. 6, June 1960, pp. 19,20,22 (3 pages). The results of ink emulsification in lithography, its causes, and some tests are given. Ink modification to control tinting is a "hit or miss" change. A quick test to control such change was devised and the test and its use are explained. It is based on a roll mill running under water. After a controlled run with the ink under test, water is withdrawn and filtered. The stain on the paper is the measure of emulsification. 2 Illustrations.

HOW'S YOUR WATER? - Part I. Joseph W. Skrabak. National Lithographer 67, No. 6, June 1960, pp. 95,6,110 (3 pages). In investigating causes of ink drying troubles, wide variations were found in the pH and buffering characteristics of local water supplies used in preparing fountain solutions. A table shows pH values ranging from 6.8 to 9.5 and degree of buffering from "No buffering" to "Very highly buffered". The buffering effect is shown in a graph.

CONCLUSION (of above article). IBID July 1960, pp. 75-6 (2 pages). Effects of solutions made from different waters on drying times of inks were investigated and differences found. Hard waters appeared detrimental to drying due to too much buffering action. Suggestions are offered in relation to the problem. 1 Graph.

PHOTO-LITHO NOTES - LITHO ZINC (entire article given here). J. S. Mertle. National Lithographer 67, No. 6, June 1960, p. 50. Investigations conducted by German lithographers indicate that the sludge sometimes experienced during etching of grained zinc plates is not always due to the carelessness on the part of the plate grainer. It may be caused by chemical reaction of etching solutions on poor quality zinc plates, or those containing appreciable traces of phosphorus, lead, cadmium, antimony, copper, iron or arsenic.

SOME PHYSICO-CHEMICAL ASPECTS OF LITHOGRAPHY. W. H. Banks. Proceedings of the First Conference of the Association of Printing Technologists, April 12, 1957, pp. 16-28, 62-65 (17 pages). A theoretical approach to lithography using physical chemistry as a foundation is outlined. Areas covered include: The nature of metal surfaces in aqueous solutions; the wettability of metals by oils in the presence of water; the sensitizing and desensitizing action of damping solutions; the necessity for water in lithography; some considerations of the ink/water interface, the influence of surface moisture, and the effects of emulsification. A discussion of the paper follows as related to the theory and practical consideration.

MOISTURE-CONDITION PAPER FOR GOLDENROD STRIPPING. Charles W. Latham. The Inland & American Printer and Lithographer 145, No. 4, July 1960, p. 73 (1 page). In answer to a question on register, author suggests hanging goldenrod in a conditioning cabinet before use.

PAPER AND INK

*A NEW INSTRUMENT FOR MOISTURE DETERMINATION. H. Gaegauf. Ind. carta, Milan, vol. 1 no. 8-9, Aug.-Sept. 1958, pp. 100-7 (in Italian); Printing Abstracts 15, No. 3, March 1960 p. 146. The importance of paper-moisture control, the dependence of the moisture content

on such factors as temperature and total and water-vapour pressure of ambient air, and the effect of moisture content on the physical properties of paper are discussed. Modern methods of moisture determination, based on the measurement of electrical resistance or dielectric constant of paper, are rapid and adaptable to continuous recording, but are affected by various factors related to the composition of paper. All these disadvantages can be eliminated if, instead of the absolute moisture content, the water-vapour pressure of the sample is determined under constant air humidity. A practical knowledge of the state of conditioning, i.e., of the relative humidity in equilibrium with paper, is far more important than a knowledge of the absolute water content. A moisture meter based on this principle and developed by the author consists of an open equilibration chamber placed over a metal plate supporting the sample and an electronic hygrometer which measures the electric resistance of thin layers of hygroscopic salt or acid solutions (such as lithium chloride and bromide, zinc chloride or sulphuric acid) within a 10 to 90% relative humidity range.

*INVESTIGATION OF DIFFERENT TYPES OF PAPERS WITH THE FOGRA PRINTABILITY TESTER. F. Wultsch and K. Schubert. Papier, Darmstadt, vol. 13, no. 23/24 25 Dec. 1959, pp. 600-7 (in German); Printing Abstracts 15, no. 3, March 1960, p. 149. The Fogra tester is critically examined from the viewpoint of its suitability for evaluating printing papers, particularly in regard to ink transfer and picking resistance. The ink transfer curves give a good indication of the effect of the addition of auxiliary materials, calendering, differences in smoothness and variations in thickness and sizing, etc. Air humidity exerted no effect on the distribution curves. It is recommended that when using the tester, curves should be plotted for papers which print well and those which print badly to serve as standards. The advantage of the tester is that it uses inks for the test. The tests can be carried out at different pressures and different speeds.

*NEW METHOD OF MEASURING SMOOTHNESS AND UNIFORMITY OF SMOOTHNESS OF PAPERS AND BOARDS. W. Brecht and H. Geenen. Papier, Darmstadt, vol. 13, no. 21/22, 5 Nov. 1959, pp. 519-30 (in German); Printing Abstracts 15, No. 2, February 1960, p. 86. All the existing methods of measuring smoothness have their disadvantages. A new tester, developed at the Institut fur Papierfabrikation der Technischen Hochschule, Darmstadt, utilizes an air stream to measure the roughness (see Print. Abstr. 3632/1959). It operates continuously and indicates not only the roughness but also its distribution over the paper surface. Full details and illustrations are given of the tester. In order to demonstrate the suitability of the apparatus the printability of coated papers is compared with the smoothness (or roughness) values obtained with the Bekk, Bendtsen and Institut testers. Tests were also carried out on single-sided glazed papers. The effects on roughness of smoothing by the use of a calender, between two polished steel plates and by pressing with the small steel pressure roller of the tester, and the decrease in roughness whilst running through a calender were also investigated.

FILM SEPARATION IN THE PRINTING PROCESS. Dr. Andries Voet. American Ink Maker 38, No. 5, May 1960, pp. 72,3,5,6,8, 81,3,7, 137 (9 pages). A critical review is given of the experimental and theoretical investigations of tack, especially with reference to printing inks. For slow separation the film splitting appears to occur by flow, but for rapid separation a visco-elastic reaction to the stress is apparent. Cavitation is a phenomenon which may or may not precede or in part accompany rapid film separation. Even when cavitation occurs, the total energy of separation is largely required for the process of filament elongation. 34 references - 3 diagrams.

WHAT LITHOGRAPHERS EXPECT FROM PAPER AND INK. Willard P. Greenwood. Inland & American Printer & Lithographer 145, #2, May 1960, pp. 56-7 (2 pages). Paper and

papermaking cause problems for lithographers; some of these problems have not yet been solved by various paper mills. Some of the things lithographers have a right to expect of paper are: grain long way of sheet, well piled and packaged, right moisture content, no curls or waves, proper pick resistance, and several other properties. Similarly, inks should be in proper quantity and packaging; of proper color; right body, tack, strength and water resistance; and have proper drying characteristics.

THE FOOD ADDITIVES AMENDMENT OF 1958. Hal-Curtis Felsher and Walter J. Hanau. American Ink Maker 38, No. 5, May 1960, pp. 46.7,8,9, 133 (5 pages). The meaning of "food additive" is explained and shown to include accidental additives from the package. The status with regard to exemption could include previous exemptions and new lists. Inks are considered only when there is a reasonable expectation that a non-approved substance will migrate from the ink into the food. Ink on the outside of a package, or even on the inside when overlaid with an impervious coating is not a "food additive." Limitations on use of inks are explained and precautions assuring compliance with the law are given in some detail.

HOW MUCH INK AND WHAT KIND? Frank Arbolino. Modern Lithography 28, No. 5, May 1960, pp. 87, 143 (2 pages). Author starts with 2 questions: 1. "I have a large solid and fine halftones. How much ink should I carry on my rollers?" 2. "Should I use a stiff ink or a very short ink?" The answers are discussed in terms of ink thickness, tinctorial strength, paper surface, blanket condition and rollers.

PERMANENCE. Ian Scott. The Litho-Printer 3, No. 7, July 1960, pp. 343,344,347 (3 pages). Some types of printing require a paper base which will last "two or three lifetimes at least." Recent work on the ageing of paper can be related to commercial problems. It has been found that low pH (high acidity) of the paper and polluted air hasten disintegration. Some thoughts on the choice of paper for permanence include: 1. Strength of the fibrous furnish, 2. Purity, 3. Acidity. Accelerated ageing tests have been developed by the U. S. National Bureau of Standards. 1 Illustration

SPOT THE PAPER TROUBLE. Anon. The Litho-Printer 3, No. 7, July 1960, pp. 362,3 (2 pages). A reduced size reproduction of a chart prepared by the Dutch I.G.T. which includes small illustration of the forms of trouble as they appear on the paper and in the print. Appearance in letterpress and offset are differentiated. Paper faults are listed by source of trouble and appearance.

MEASUREMENT OF THE SMOOTHNESS OF PAPER. T. W. Lashof and John Mandel. TAPPI 43, No. 5, May 1960, pp. 385,6,7,8,9, 390,1,2,3,4,5,6,7,8, & 399 (15 pages). The details of an interlaboratory study of the Bekk, Sheffield, and Bendtsen air-leak methods for the measurement of the smoothness of paper are presented. The data are analyzed using a procedure based on a linear model of the measuring process, and the results are interpreted in terms of this statistical model and the sensitivity concept. A comparison with previous work is also included. For the special series of mimeobond papers used in the study, good relationships were found between methods. Between-laboratory variability is appreciable in all three methods, but could be reduced with the aid of one or two standard samples. Both the Bendtsen and Sheffield methods suffer from scale-type errors due to the difficulty of bringing the several manostats of the Bendtsen or the several columns of the Sheffield into agreement with each other. When advantage is taken of their faster testing times to increase the number of specimens tested, the Bendtsen and Sheffield methods are slightly more sensitive to smoothness differences than the Bekk method.

MEASUREMENT OF THE CONTRIBUTION OF FLUORESCENCE TO THE BRIGHTNESS OF PAPERS TREATED WITH WHITENING AGENTS. F. Grum and T. Wightman. TAPPI 43, No. 5, May 1960, pp. 400,1, 2,3,4,5, (6 pages). It is shown that a Beckman DK-2 Spectroreflectometer can be modified and used for the measurement of the brightness of samples containing optical bleaches which fluoresce. The samples, placed at the reflectance position of the instrument, are illuminated with completely diffuse illumination. Light from a source of controlled spectral distribution is directed into the integrating sphere through the opening ordinarily used for the detector, so that the integrating sphere illuminates the sample with completely diffuse light. A "characteristic-vector" method is compared with integration with the color-mixture function of the CIE system, for evaluation of the "brightening" effects of optical bleaches.

A NEW METER FOR THE MEASUREMENT OF PULP AND PAPER BRIGHTNESS. G. C. Temes, P. C. Boire, and Hugh M. Banfill. Pulp and Paper Magazine of Canada 61, No. 6, June 1960, pp. T-314,15,16,17,18 (5 pages). A logarithmic a.c. vacuum-tube voltmeter as a null indicator, and a calibrated ten-turn potentiometer as an indicating device, are features of an integrating sphere type of electronic brightness meter for the measurement of pulp and paper brightness to within a precision of $\pm$ 0.3 per cent. The instrument is independent of the usual fluctuations in line voltage and frequency, or changes in the light source, photo detector, or amplifier. A prototype instrument has been used for one year on a 24 hour per day continuous availability basis for laboratory control of pulp bleaching operations. Production models are now available.

A FORMATION TESTER WHICH GRAPHICALLY RECORDS PAPER STRUCTURE. G. Burkhard, P. E. Wrist, and G. R. Mounce. Pulp and Paper Magazine of Canada 61, No. 6, June 1960, pp. T319 thru T 334 (16 pages). The development of a formation tester for analyzing the structure of a sheet of paper is described. This instrument measures and records the distribution of spacings between floc centres in the machine-direction and cross-direction respectively and provides a signal at any given spacing whose amplitude is the product of the number of such spacings and the relative intensity of the corresponding floc above its immediate surroundings. A graphical record of the paper structure is obtained for permanent reference. The graph supplies information on a spectrum of floc separation from 4 in. to 0.013 in. General indices of the uniformity of the sheet, of predominant floc size, and of intensity of wire mark may be readily obtained from the curve. The presence of streaks, felt marks, press marks, and other discontinuities is immediately apparent on the graph. The instrument has been used to evaluate papers ranging in substance from 18 to 150 lb. basis weight and from bible paper to 9-point corrugating stock. Particular attention is given to its application to newsprint.

DEVELOPMENTS IN PAPER MANUFACTURE. A. T. Franklin. The British Ink Maker 2, No. 3, May 1960, pp. 40,41,42 (3 pages). Impetus for paper developments have come from the greater use of color printing, the demand for print gloss, and higher printing speeds, good paper making involves compromise between conflicting factors. Improvements in coating - both on the machine and secondary process - are discussed with comparison photomicrographs of paper coated by brush, air doctor, and roll coater. Trailer blade coating, opacity and fluffing are considered. The paper industry is very much alive and is carrying out extensive research. 4 photomicrographs.

MAGNETIC INK MAKES WASTE PAPER PROBLEM. Anon. The American Pressman 70, No. 6, June 1960, p. 16 (1 page). A statement from the Waste Paper Utilization Council to the effect that: "serious difficulty" (nature not stated) is being experienced with magnetic inks on bank statements. Warnings have been issued and suggestions offered for stopping this material at the source.

PATRA DEVELOPS TEST BENCH FOR PAPER AND INK RESEARCH. Anon. The Inland & American Printer and Lithographer 145, No. 4, July 1960, p. 85 (1 page). A brief, illustrated description of a "packaged laboratory" or "do-it-yourself" testing bench developed by Great Britain's Printing, Packaging & Allied Trades Research Association. The paper and ink tests provided for are listed. Bench working surface is 8-1/2 x 2-2/3 feet. 3 Illustrations.

LITHOGRAPHY - GENERAL

LITHOGRAPHY FOR PACKAGING (From a talk given at a recent packaging conference in Toronto). M. H. Bruno. Modern Lithography 28, No. 5, May 1960, pp. 91,3, 139, 140 (4 pages). Statistics are cited to show the growth of lithography in the folding carton field. This is explained in the following advantages over letterpress: 1. Offset blanket helps in surface irregularities of board. 2. Plates are easy to make and reasonable in cost. 3. A minimum of makeready is needed. 4. Offset press speed. 5. Less ink, less offset spray, faster drying. Each of these points is elaborated upon, and also, the important place of organized research and The Lithographic Technical Foundation is mentioned. New developments in plates, dampening, blankets, color reproduction and quality control are discussed. 11 References.

LITHOGRAPHY IN REPRODUCTION ON ALUMINIUM FOIL. James T. Trousdale. The Litho-Printer 3, No. 7, July 1960, pp. 372, 375, 377 (3 pages). Advantages of lithography are cited. Developments in foil in last 5 years include better lamination and better coatings. Paper backings are available in a wide range of weights. Most satisfactory coatings are nitrocellulose or vinyl type. Suggestions are offered on storage and handling, cutting, feeding, press operation, plates, inks, drying and stacking, and printing by web offset.

FOUNTAIN DOPE - DIFFERENT TYPE OF OFFSET BLANKET, THE POLYFIBRON, COULD WELL BE MAJOR BREAK-THROUGH IN NEW DESIGN, IMPROVING AND REPRODUCTION AND EXTENDING PLATES' LIFE. John D. Payne. New England Printer and Lithographer 23, No. 1, February 1960, pp. 31,2 (2 pages). Describes the Polyfibron two element blanket which could well be a major break-through in blanket design, giving improved reproduction and extended plate life. The lower element is a cemented fabric carcass of about half the normal blanket thickness. The top element consists of an elastic body containing air spaces contributing to compressibility, with an outer surface of .005 in. of synthetic rubber and an inner surface of pressure sensitive adhesive. The lower element is applied under normal tension, the top element is rolled onto the lower giving a taught carcass and a relaxed top element. The compressibility of the outer element is supposed to contribute to less dot distortion and less plate wear. The packing of the blanket, and certain experiments are discussed. These indicated that improved tone reproduction and longer blanket life could be expected. "Smash" tests indicated that only the outer element suffered damage and could easily and quickly be replaced.

OFFSET PRESS CYLINDERS NEED CONSTANT CARE AND ATTENTION. Charles W. Latham. The Inland and American Printer and Lithographer 144, No. 6, March 1960, pp. 68,69,70 (3 pages). Press cylinders are the heart of the press but they often get less attention than any other part of the press. Each of the cylinders is described in relation to its functions and certain printing faults are related to the cylinder malfunctions causing them. Examples are doubles in halftones due to worn bearings, adjustments of cylinders, bearers, gears are discussed. 2 Illustrations.

PHOTO-COMPOSING WITH FILE CARDS. Anon. Perspective 2, No. 2, 1960, p. 194 (1 page). Brief description of system consisting of Vari-Typer prepared cards with perforations for

electric sorting and a Foto-List camera. Cards are photographed automatically line-by-line. 1 Reference.

LITHOGRAPHING -- PACEMAKER IN THE LABEL FIELD. Leroy L. Gamse. Lithographers Journal 45, No. 1, April 1960, pp. 12,13,40 (3 pages). Lithographing has moved to first place in the production of labels. The great change in packaging, particularly of foods, is pointed out. The growth of lithographed labels has far outstripped the growth of the over-all package industry. Figures are cited. Some reasons why lithography has done this are: advances in color separation and correction and platemaking, improvements in presses and their accuracy; and improvements in paper, ink and varnishes. Sources of some of the statistics are cited.

TINTED MAPS BY LITHO. K. H. Dow. The Lithographer and Offset Printer 56, No. 6, June 1960, pp. 17,18,19 (3 pages). The need for tints in various colors in map printing is explained. The specific requirement was for a large area tint with a printing weight of 1/3. Two line tints, one at 45° and one at 90° ruled 60 lines per inch were the starting point from which a variety of screens were developed as explained with the aid of 5 illustrations.

WHAT WE THINK ABOUT WEB OFFSET ROTARY PRINTING. Hyman Safran. Lithographers Journal 45, No. 2, May 1960, pp. 18, 19, 31 (3 pages). A story of a printing company which has been very successful in the web offset field, also some information on the advance of web offset printing and equipment in general. Certain problems that have been overcome, such as conversion of letterpress plates to film, and problems yet to be solved are pointed out. These latter include, personnel, high speed equipment, paper and ink, and resistance to change on the part of buyers. 1 Illustration.

"IMPROVED DAMPENING SYSTEMS." Anon. The Small Offset User 9, No. 105, July 1960, pp. 271 (1 page). A "LETTER TO THE EDITOR" points out that the dampening system given the name Dahlgren systems was patented in Great Britain in June 1938 and has been used on practically all Rotoprints manufactured since 1947/8. One diagram.

WHAT IMPROVEMENTS ARE NEEDED ON TODAY'S WEB OFFSET PRESSES? Charles W. Latham. The Inland & American Printer and Lithographer 145, No. 4, July 1960, pp. 66-68, 73 (4 pages). Roll fed offset presses have come a long way in the past 20 years, but they still have a long way to go to deliver better and acceptable quality work. Some advantages of web offset are speed, continuous folder, easier drying and simplicity of blanket-to-blanket perfecting. Weaknesses point out needs for improvement. Improvements discussed involve blanket packing, wrap of web on cylinders, web tension problems due to moisture pick-up, shadow or double dots and backlash. A suggestion is offered for the use of staggered bearers permitting lower blanket packing for web control. Other suggestions include inking and dampening mechanisms. 5 Illustrations.

SHOULD AN OFFSET HOUSE ADD WEBFED EQUIPMENT? R. B. Hubbard. Printing Magazine 84, No. 6, June 1960, pp. 80, 81 (2 pages). A frank and thoroughgoing discussion of the factors taken into consideration by a large, quality, sheet-fed lithographic plant in going into web offset. First it was necessary to establish the fact that they could do as high quality work on web as sheet. The types of work they planned for the web press were listed, many being jobs they had turned down in the past due to unsuitability for sheet fed, and probably not over 10% by conversion from sheet fed. Selection of jobs suitable for web offset are based on the advantages of that process and involve length of run, lighter weights of paper, and operations performed at the end of the press. Makeready times compare favorably with the large (59" & 77") sheet-fed presses. Plate and hourly operating costs are also comparable. Savings in cost of paper strongly favor

the web press. Management problems imposed by the new press included about all departments, especially sales and quality control. Problems and adjustments were encountered, but the advantages of web are worth it. 3 Illustrations.

GRAPHIC ARTS - GENERAL

*TESTS FOR COLOUR VISION. F. Jordinson and T. Minshall. Journal Society Dyers and Colourists 75, No. 12, December 1959, pp. 585-93; Printing Abstracts 15, No. 3, March 1960, p. 210. The various types and degrees of defective colour vision are discussed, leading to many different kinds of tests, which may be valuable and successful for certain purposes but less so for others. Special tests are required for dyers and colour blenders, where even a slight variation from normal colour vision is important. The Wain test, which has been developed on the basis of metameric matches, is claimed to be extremely sensitive for this purpose.

WRAP-AROUND PLATES. John W. Rockefeller, Jr. Modern Lithography 28, No. 5, May 1960, pp. 56,7, 145, 147 (4 pages). Dry offset and flexographic plates are first mentioned briefly. Other developments now in use include a French operation with plastic plates and English work with magnesium and a converted offset press. The author discusses some experiments involving wrap-around plates, various presses, roller problems, etc. A series of 7 "Tentative Judgments" indicate a belief that the problems involved can be solved and suggests the forms the solutions will take. 1 Illustration.

FASHION OF THE '60s: COLOR REPLACES WHITE. Frank Myrick. Printing Production 90, No. 6, March 1960, pp. 59,60,106,107 (4 pages). Papermakers now offer printers new kinds of paper to escape black on white printing tradition. Easier reading is claimed. In cooperation with Faber Birren, colorist; five special tinted papers and four related inks have been developed. The brightness ratio of 16 to 1 given by black on white often produces eye strain; an 8 to 1 ratio is satisfactory under most reading conditions. Present illumination levels are high. The costs involved in colored inks and papers are discussed. One illustration. A signature of the magazine is printed in one of the color combinations suggested.

SHEET REGISTER. A. S. Porter. The Litho Printer 3, No. 7, July 1960, pp. 350,352, 353 (3 pages). Sheet register in the grippers of an impression cylinder is discussed in relation to the time allotted to this operation on modern high speed presses. Stream feeding has helped on this. Transfer from cylinder to cylinder and the problem of the "fanning out" of the paper under pressure and its control are also considered. 18 line illustrations.

HEALTH HAZARDS. Anon. The Litho-Printer 3, No. 7, July 1960, pp. 355,6 (2 pages). Some minor problems involving the health and comfort of the printer which are discussed by this medical correspondent include: calluses, colouring, infections, trembling and allergies. Some suggestions are offered.

EXPERIENCE WITH CONTROL CHARTS ON INK-FILM THICKNESS AND SHARPNESS. Warren L. Rhodes and John F. Petrycki. TAPPI 43, No. 5, May 1960, pp. 429, 30,3,2,3 (5 pages). Experience over a 12-month period with control charts on ink density and sharpness in lithographic printing is described. One of the experiments in color reproduction at the Rochester Institute of Technology calls for repeating results obtained using an offset press to print three colors on coated stock. Density and sharpness are measured with a densitometer. The pressman is asked to achieve a constant ink density and sharpness within one sheet and from sheet-to-sheet on all press runs. This paper describes how

the pressman tries to achieve this uniformity and shows his results by means of control charts and related statistical tests. One batch of paper exhibited a periodic sheet-to-sheet variation. Paper tests were run on these sheets to see which of the test methods correlated with press results. Ink density correlated with basis weight, coating weight, gloss, brightness, and caliper.

WHAT TYPE CLASSIFICATION SHOULD AND SHOULD NOT DO. Alexander Lawson. The Inland and American Printer and Lithographer 144, No. 6, March 1960, pp. 84-85 (2 pages). Type faces can be overclassified, grouped into meaningless categories. Finding a method to identify roman faces remains a major problem. Fifty years without a system makes it hard to find a basis for one.

HOW WEB OFFSET CAN SERVE THE PUBLISHING INDUSTRY. Bert Chapman. Lithographers Journal 45, No. 3, June/July, 1960, pp. 12,13, 44 (3 pages). A periodical publishers' production man compares the "Big Three" of printing processes. While web offset is increasing in their operations, but there is room for all and they have not discarded any letterpress equipment. He points out, however, that the greatest lithographic growth is in combination plants. Author gives some history on his company's (Time, Inc.) experiences in feeling their way into the use of litho. He lists 8 ways in which web offset is being or could be used by publishers.

GROWTH PATTERNS OF THE PRINTING AND LITHOGRAPHING INDUSTRY (Part II). Cyril M. Wildes. Lithographers Journal 45, No. 3, June/July, 1960, pp. 14,15,16 (3 pages). More charts and accompanying discussions cover: Value added by manufacture examined in relation to the size of plant (no great shift to larger plants in period covered); distribution among those states doing the largest volume of printing (former leaders - New York and Illinois are losing to other states); and efforts to explore distribution of printing by products (hard to find good comparisons).

CONTINUED DRAMATIC GAINS FOR LITHOGRAPHY ARE REVEALED IN THIS REPORT ON THE 1958 CENSUS - Part I. Cyril M. Wildes. Modern Lithography 28, No. 6, June 1960, pp. 42,43, 44,45 (4 pages). Author starts with a discussion (general) of the Census of Manufactures; history, benefits, character and coverage. In the 1958 census, changes were made to make figures more useful. About 40 products are listed by printing process in the census. Several major products are listed by process giving $ volume. An annual survey by selected sample will fill in between census years. The character and significance of the figures obtained are discussed. Three charts give some of the growth characteristics of the industry, comparing processes within the industry in $ volume and % growth, and comparing printing with gross National Product and Personal Consumption Expenditures.

INSTRUMENTATION AND AUTOMATIC CONTROLS FOR PRESS REGISTER AND QUALITY. Harvey F. George. Gravure 6, No. 1, January 1960, pp. 20, 21, 54, 55 (4 pages). Specific instruments described and illustrated are the Scan-A-Web for viewing a moving web; the Brookfield Viscotron, the Crosfield Idotron and others for ink viscosity control; a new automatic paster by Hoe, and the Hurletron D.C. Press Drive. 4 Illustrations. 2 references.

THE USE OF SYNTHETIC MATERIALS IN THE PRINTING INDUSTRY. V. S. Lapatuhin. The British Ink Maker 2, No. 3, May 1960, pp. 44,5,6,7,8,9 & 50 (7 pages). A report on the printing industry in the Soviet Union with particular attention to the use of synthetic materials. In quick setting inks linseed oil is replaced with synthetics, some of which are listed. Synthetic fibers are being used in paper making and synthetic binders in paper coatings. The function of synthetics in make-ready and in inking rollers is also discussed. Some Soviet references are given.

CENSUS SHOWS BIG GAINS IN PRINTING. Anon. Printing Magazine 84, No. 5, May 1960, p. 68 (1 page). Table below gives figures based on preliminary reports of 1958 Census of Manufactures. Dollar volumes are in millions:

Branch of Printing	1954 Volume	1958 Volume	Increase %
Greeting Cards	220	289	31
Engraving & Plate Printing	61	87	42
Book Printing	225	350	56
Blankbooks & Paper Ruling	79	136	72
Looseleaf Binders and Devices	80	112	39
Miscel. Bookbinding Work	22	39	77
Bookbinding	117	43	23
Books, Publishing & Printing	709	1,023	44
Miscel. Publishing		314	34
Photoengraving	175	209	19
Electrotyping & Sterotyping	88	81	- 8
Printing Trades Machinery	276	311	12
Typesetting	121	177	46

GROWTH PATTERNS OF THE PRINTING AND LITHOGRAPHING INDUSTRY. Cyril M. Wildes. Lithographers Journal 45, No. 2, May 1960, pp. 20-26 (7 pages). Part I of 2 parts - The value of the census figure to the industry are pointed out. Some explanation is given of the thinking back of the choice of inquiries used as to various printed products and a table shows the distribution among processes of some of the largest volume items. Several charts show: (1) Lithography vs Other Printing Processes, (2) Growth of Printing Industry, 1939 to 1958, (3) Printing Receipts vs National Income, (4) Printing Receipts vs Population (By Regions), (5) Letterpress and Other vs Lithography (by regions). From Lithography vs Other Printing Processes the following figures are copied:

Year	Volume of Business	Letterpress & Other	Lithography
	$1,000	%	%
1929	1028	87	13
1939	711	80	20
1947	1947	76	24
1954	3227	69	31
1958	4249	66	34

800 PRINTERS HEAR USERS ACCLAIM DYCRIL PLATES. G. C. Compton and E. S. Koval. Printing Magazine 84, No. 6, June 1960, pp. 52-54, 103 (4 pages). At New York Dycril Workshop, "Status of Progress" reports by duPont representatives, commercial printers, and current users, tell of great strides made in use of photopolymer printing plates and their enthusiastic acceptance by many in industry. Good progress is being made in multicolor printing. A thin flexible plate in sizes up to 39 x 76 in. will soon be available. The processing of the plate is described. Costs are competitive in some cases, not in others with lower prices of raw material a possibility. Factors in costs are reduced makeready and reduced ink costs due to superior ink transfer. 4 Illustrations.

DON'T IGNORE BASIC PROBLEMS OF WRAP-AROUND RELIEF PLATES. Anon. The American Pressman 70, No. 6, June 1960, pp. 30-32 (3 pages). A quotation in part from a paper by J. W. Rockefeller, Jr. at Toronto Convention of International Association of Electrotypers and Stereotypers. The problems of getting a plate of irregular thickness to lie smoothly on a cylinder are discussed. Less depth of etch is suggested as a solution. 2 Illustrations.

HIGH SPEED WET PRINTING BY LETTERPRESS. G. A. Smith. Proceedings of the First Conference of the Association of Printing Technologists, April 12, 1957, pp. 46-54, 77-83

(16 pages). This article written by an Englishman surveys the entire web-fed high speed letterpress printing field as he has seen it. While the article generally covers production methods and economies as related to the British Printing industry, it is limited mainly to a survey of the press used to print Readers Digest. Ink, paper, heater units, platemaking, register, speed-quality limitations and economics are discussed. A discussion of the paper as presented is also included.

NEW SIZES AND SHAPES FOR MAIL AFTER January 1, 1962? Hal Allen. The Inland & American Printer and Lithographer 145, No. 4, July 1960, p. 96 (1 page). Post Office has proposed certain standards to meet the development of mechanized processes for mail handling. Certain acceptable and unacceptable mailing sizes, shapes and practices are diagrammed.

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LITHOGRAPHIC ABSTRACTS, NOVEMBER 1960

PHOTOGRAPHY, TONE & COLOR CORRECTION

UNDERCOLOR REMOVAL REQUIREMENTS OF THE BLACK PRINTER (Part III). J.A.C. Yule and F. R. Clapper. Graphic Arts Monthly, 32, No. 5, May 1960, pp. 52,53,54,56,58 60 (6 pages). In four-color work, the amount of the three colored inks should be reduced where black is to be printed. Known as "undercolor removal (UCR)," it is done by making a positive UCR mask from the black-printer negative and combining it with each of the other negatives. When each ink is dried before applying the next, moderate UCR is desirable; but in high-speed wet printing, a large amount of UCR is necessary. A sensitometric analysis of both these situations is given, and problems encountered with full UCR are discussed.

IS OUR PLANT READY FOR OFFSET PROCESS COLOR? - Part I - PRACTICAL ASPECTS. G. H. Lytle. The American Pressman 70, No. 7, July 1960, pp. 46-48, 63 (4 pages). This series of articles deals with the practical aspects of understanding and physically controlling color for maximum efficiency and quality. Black and white photography, screening and the gray scale are taken up in this installment. 11 illustrations.

COLOR IN THE MODERN PRESS. L. B. Dunnigan. P.S.A. Journal 26, No. 8, August 1960, pp. 8,10,12-14 (5 pages). The revolution that is going on in the publishing field as more newspapers and magazines switch to color means that the photographer must watch his methods to keep up with new developments if he wants to sell color to those markets. Many specific suggestions are offered to enable the photographer to produce color of the kind that can be used considering the coarse screens (in newspaper work), inks used, press speeds, etc.

ORTHOTRON ELECTRONIC FLASH. F. G. Wallis. The Litho-Printer 3, No. 2, February 1960, p. 97 (1 page). Advantages of electronic flash illumination are cited as saving in exposure time, absence of heat, small current consumption, accuracy of exposure, and right color temperature for transparencies. Several models of such flash equipment are described briefly.

THE CALCULATED MISS. Joseph P. Halbherr. Gravure 6, No. 8, August 1960, pp. 22-25, 51,2,4 (7 pages). A discussion of methods of calculating exposures in process photography. A method is given which makes use of photometer readings at the ground glass. 3 Illustrations including a dial calculator to be cut out and mounted on a card.

VIGNETTES ADD A SPARKLE. Dick Arden. The Graphic Arts Monthly 32, No. 8, August 1960, pp. 66,68,70 (3 pages). Author describes a simple method of making continuous tone vignette negatives. Exposure is to a slit cut in an exposed and developed film wrapped around a fluorescent tube and development is in a doctored continuous tone developer. Possible uses and directions for use are given.

MAKE BETTER HALFTONE RESCREENS - HERE ARE TWO SYSTEMS TO ELIMINATE MOIRE. Dick Arden. The Graphic Arts Monthly 32, No. 7, July 1960, pp. 82,4,6 (3 pages). In addition to copy already printed by a halftone screen method, some other types of copy which can give moire troubles include textiles, brick, stone or tile wall patterns, textured photographic papers, and others. Two methods of avoiding

moire in photographing such copy are given in a complete, step-by-step description. One involves, basically, the use of a piece of cleared film which is in front of the lens and kept in motion during the exposure. The other involves the use of the new Japanese Canon Contimat filters for diffusion. Specific instructions for exposure, flash and development are given for both methods.

SAVING STEPS IN 2 STAGE MASKING - PART I - REFLECTION COPY. F. R. Clapper and W. J. Zimmer. The Graphic Arts Monthly 32, No. 7, July 1960, pp. 66,8,70,2, 4,6,8 (7 pages). A simplified approach to 2 stage masking has been worked out which involves the same number of steps as single-stage masking. Step-by-step directions are given in some detail for reflection copy. Masking is done in the camera back. A black printer is included. 5 References.

SAVING STEPS IN 2 STAGE MASKING - PART 2-TRANSPARENCIES. F.R. Clapper and W.J. Zimmer. The Graphic Arts Monthly 32, No. 8, August 1960, pp.74,6,8, 81 (4 pages). The process is first explained in comparison with the method described in Part I for reflection copy, and with single stage masking for transparencies. The basic operations and their purposes are first described in general, followed by detailed, step-by-step instructions. Some advantages of two stage masking close the article.

A MICRODENSITOMETER FOR PHOTOGRAPHIC RESEARCH. N. K. Southwold and W. G. Waters. The Journal of Photographic Science 7, No. 6, 1960, pp. 174-177 (4 pages). A recording microdensitometer similar to that described by Altman and Stultz (Microdensitometer for Photographic Research, Altman, J. H. and Stultz, K.F., Review of Scientific Instruments, 27, 1033-1036, Dec. 1956) has been made for research on image structure in photographic materials. The scanning aperture is a slit of width adjustable down to about 1μ and length up to about 700μ. Response is linear with densities up to about 3.5 at this aperture. The record is made on rectangular co-ordinate chart-paper.

REPRODUCTION BY 300 LINE SCREEN. Hirotaro Nomura. Asian Printer 2, No. 3, 1959, pp. 66-69 (4 pages). Author discusses the use of methods to produce "the spiritual and concrete contents of the original." The four-color example inserted contained fine detail, hence the 300 line screen. A two-step method employing highlight masked mask and shadow mask and deep-etch plates is described in some detail. A 300 line contact screen was employed. Two diagrams and color insert.

A NEW APPROACH TO COLOR CORRECTION BY THE TWO-STAGE MASKING SYSTEM. Karl L. Thaxton. Gravure Technical Assoc. Bulletin 9, No. 2, June 1960, pp. 47-57 (11 pages). This paper covers: 1. Why is color correction necessary. 2. A comparison of several systems. 3. An analysis of two-stage masking. The first point is explained with reflectance curves of inks. The comparison is done with the aid of 5 specific examples. The masking system is worked out with the aid of reflection density readings. 7 Illustrations.

NEW DOCUMENT REPRODUCTION IDEA: APPLICATIONS ARE GUESSING GAME. Lloyd E. Varden. Photo Methods for Industry 3, No. 7, July 1960, pp. 14, 16 (2 pages). A new contact printing technique is described which employs both electrostatic and thermographic phenomena. It depends upon a special coating which is non-conducting at room temperatures, is given an over-all electrostatic charge, subjected to a heat image which makes coating conductive at elevated temperature, thus discharging selectively, and developed by usual xerographic methods.

AUTOMATIC DODGING: A NEW APPROACH TO AN OLD PRINTING PROBLEM. Ernest E. Reshovsky. Photo Methods for Industry 3, No. 7, July 1960, pp. 60,2,80 (3 pages). Dodging methods mentioned include manual, light distribution and flying spot scanners. The first two are subject to human error. The last is successful, but costly in equipment and slow. A new experimental method uses the ability of infra-red to quench a phosphor excited by ultra-violet. Unknown factors not yet fully explored are acting on the sensitive materials. Still experimental the method looks promising. 4 Illustrations.

A NEW COLOR FILM NOT FOR MAKING PICTURES BUT FOR CORRECTING THEM. Herbert P. Paschel. Photo Methods for Industry 3, No. 7, July 1960, pp. 66,8,9 (3 pages). Brief comparison and discussion of Agfa Kom-Bi and Gevaert Multi Mask integral multi-pack masking films. 1 Illustration - 3 References.

METHODS OF HANDLING ROP COLOR IN GERMANY. Rudolph Krueger. Printing Production 90, No. 9, June 1960, pp. 64-5,125-127 (5 pages). Some slight differences between U. S. and German practice are noted. Tests showed that a "cool color scale" with true magenta and cyan gave best results, more highly concentrated inks did not become dirty with wet-on-wet printing, and a changed sequence of blue, red, yellow gave better depth. Other details, on retouching, etching, highlighting, color proofing, and control of stereo variables are discussed. Some deficiencies of the German presses are pointed out. 1 Illustration.

OFFSET OPERATIONS - FLARE, EXPOSURE AND DEVELOPMENT ARE CHECK POINTS TO BE WATCHED IN CONTROL OF HALFTONE REPRODUCTION. Earl Roberts. New England Printer and Lithographer 23, No. 6, July 1960, pp. 25-6 (2 pages). The contact screen has changed the photographic habits of the litho industry. A series of check points are given which are said to be the leading causes of poor halftone reproduction. These are: Lens flare, improper exposure (main, boost, and flash), development (agitate and still). These are discussed in relation to good work.

WHY SEPARATION MASKING. Anon. Reprorama 9/1959, pp. 8-12,20 (6 pages). The subject is discussed briefly from the standpoint of contrast changes on imperfections in the printing inks. A double page spread in full color explains the situation pictorially starting with theoretical and actual absorbencies and reflectances of the three process colors of printing inks.

CONSTRUCT YOUR OWN GRAPHIC SCALER PROPORTIONING DEVICE. Howard L. Cook and John F. Wilhelm. Printing Production 90, No. 10, July 1960, pp. 54-55 (2 pages). Directions for making a device for determining enlargements and reductions, and the percentages of each, of photographs, printing plates, drawings and other commercial artwork. The "Graphic Scaler" is drawn on No. 2 Bristol. Directions for use are given. 1 Illustration.

PLANNING YOUR PHOTOCOMPOSITION REQUIREMENTS. Anon. Book Production 71, No. 5, May 1960, p. 59 (1 page). Photocomposition has made some definite inroads in book publishing, especially suitable for working with offset and most effective when the book will be heavily illustrated, or has much technical or tabular material. Some cost factors and disadvantages are mentioned.

A SYSTEMATIC SURVEY OF COPY CORRECTION TECHNIQUES. George Biek. Reproductions Review 10, No. 1, January 1960, pp. 31,2,4 (3 pages). Suggestions are given for making corrections in copy to be photographed for platemaking. Erasure, opaquing, cutting and patching, etc. are discussed. A few suggestions are offered on paper and metal offset masters, stencils, etc.

PLANOGRAPHIC PRINTING PROCESSES

SURFACE PLATE SCUM. William Byers. The Graphic Arts Monthly 32, No. 6, June 1960, pp. 126,128,130,132 (4 pages). In response to an inquiry from a lithographer with a scum problem apparently aggravated by climatic conditions, causes of scumming and their remedies are gone into. Closer control over certain variable factors during periods of high temperature and humidity are necessary.

RESEARCH TO IMPROVE ZINC LITHO PLATES. Anon. The Graphic Arts Monthly 32, No. 4, April 1960, pp. 76,78,80,82 (4 pages). A research program to improve zinc lithographic plates has been undertaken at LTF under the sponsorship of the American Zinc Institute. Sponsored research is done by LTF if the work is of general interest to the industry as a whole, if there are no restrictions on LTF's being able to report favorable results to its entire membership and if the sponsoring organization provides the funds. The major areas of research in the zinc project are: (1) New Zinc Alloys, (2) Better grains for zinc, (3) Wipe-on coatings for zinc and (4) Surface treatments for zinc. A discussion of the approach used and the progress made in each of these areas is included.

THE NEW SANS-CAMERA LITHOGRAPHY. Anon. The Lithographer and Offset Printer, No. 4, April 1960, pp. 17, 20 (2 pages). The Klischograph, The Vario Klischograph and their use in letterpress engraving are described briefly, including color separation and correction. The latest idea is to engrave a plastic plate which has been overcoated with an actinically opaque layer, thus producing a negative which can be printed down on a litho plate. The machine can be adjusted to produce negatives or positives. Other possible similar developments are discussed.

A CARD AT A TIME. Anon. Photo Methods for Industry 3, No. 7, July 1960, pp. 64,5,79 (3 pages). An illustrated description of the Listomatic Foto-List and Compos-O-Line systems of transferring data stored on Electronic Accounting machine file cards to list form for offset or letterpress reproduction. Several specific installations are used to illustrate the various systems. 5 Illustrations.

CARE AND FEEDING OF FLATS - Part IV "Stripping for Profit." Elizabeth Parker. National Lithographer 67, No. 7, July 1960, pp. 32,47 (2 pages). Advice is given on the storing of flats for future use. Tape and its use are discussed. For process jobs or others requiring close register use vinyl instead of goldenrod. Proper marking of flats is urged. 2 Illustrations.

PAPER AND INK

PRINTING SURFACES. Dr. Walter W. Roehr. Paper Sales 20, No. 7, July 1960, pp. 16-17,44,46 (4 pages). A review of the general properties of both lithographic and letterpress papers. The requirements of both sheet and web stocks needed for the newer developments in both processes are discussed.

PRINTING SURFACES OF PAPER. Dr. Walter W. Roehr. The American Pressman 70, No. 7, July 1960, pp. 17,18,20,21 (4 pages). An examination into the type of paper required for the three major printing processes. Gravure supplements are mostly printed on modified newsprint. Magazine news, containing mineral filler and varying degrees of calendering is used in mail order catalogs. Higher quality gravure goes on a free sheet, mineral filled and containing a high percentage of short fibered chemical pulp. Coated gravure papers are being developed. Packaging materials in gravure printing are mentioned. Early offset printing on low

finish uncoated stock is discussed in relation to advantages and disadvantages. Subsequent improvements in the process have been paralleled by improvements in paper including smoother finished offset book, mineral coated papers with surface bonding strength and water resistance to meet offset requirements, and more recently, papers designed for web offset printing and heat-set inks. Other paper requirements for offset printing are discussed. The volume of letterpress printing has resulted in almost unlimited diversity of paper grades. Development of such papers exemplified by paper for multi-color printing with heat-set inks is often a result of simultaneous developments in ink, paper and press.

PAPER - NEWSPRINT. William H. Bureau. The Graphic Arts Monthly 32, No. 3, March 1960, pp. 34,37,114,116 (4 pages). Newsprint consumption in the U. S. is more than 7,000,000 tons annually, over 50% of world's consumption. Of this approximately 2,000,000 is produced here, 5,000,000 imported from Canada. Newsprint consists of 70 to 85% unbleached groundwood, the remainder unbleached sulfite or semi-bleached sulfate. Newsprint is weak, non-permanent, manufactured at low cost, and unsized. Some properties include exceptional opacity, good printing cushion, high absorption of news inks and highly responsive to changes in relative humidity. Aging characteristics suggest avoidance of long storage. Dominant weight is 32 lb per 24x36-500 sheet ream. Newsprint is made for letterpress printing but has in some cases been printed by offset. A smoother finish newsprint is used for rotogravure.

PAPER - UNCOATED OFFSET BOOK. William H. Bureau. Graphic Arts Monthly 32, No. 1, January 1960, pp. 80,2,4 (3 pages). The physical and chemical requirements peculiar to the type of paper mentioned above include: resistance to moisture; resistance to cockling, bulging, and wavy areas; strong internal bond to resist rupture, pick or peel of the surface; freedom from lint, fuzzy or loose fibers; non-reactivity with moisture, plate, and fountain solution; and proper pH. Finishes, grades, weights, opacity, and brighteners are discussed.

USING PAPER IN SUMMER MONTHS. William H. Bureau. The Graphic Arts Monthly 32, No. 7, July 1960, pp. 20,22,130 (3 pages). A discussion of the problems of handling paper when the humidity in the pressroom is high, including problems of wrapping, storage and conditioning. Suggestions are given on getting along with conditions as they come in summer. The use of the sword hygrometer to measure how far paper is out of balance with the air is suggested.

PAPER - LABEL PAPERS. William H. Bureau. The Graphic Arts Monthly 32, No. 6, June 1960, pp. 26,29,30,132 (4 pages). The several methods of applying labels are listed. This discussion covers only those with adhesive applied at this point of application. Such papers are: M. F. Litho, Hardsized Eggshell, Super Litho, Duplex Super Litho, and Coated One Side Papers. Three basic paper requirements are: 1. Printing requirements, 2. Treatment after printing, 3. Method of application and circumstances of use. These requirements are discussed in relation to the papers listed. Cooperation between paper supplier, printer and finisher is necessary.

THE FOOD ADDITIVES AMENDMENT AND THE PRINTING INK INDUSTRY. Einar T. Wulfsberg. The American Ink Maker 38, No. 6, June 1960, pp. 34-5, 65 (3 pages). Understanding hinges on: 1. What is a "food additive?" 2. What is "reasonable?" 3. Significance of "white lists?" "Food additive" is explained mostly by what it is not, "Reasonable" probably will have to be clarified in court. "White lists" list substances generally recognized as safe. The relationship of the

ink maker to the problem and how he can avoid involvement are given in some detail. For instance the converter can use the ink in such a way that there is no reasonable expectation that the ink may become a component of food. Some ways of assuring this are given. Tests and the relationship of the Food and Drug Administration are discussed.

PAPER WHITENESS, BRIGHTNESS IMPORTANT FACTORS IN REPRODUCTION OF COLOR BY PRINTING; GRAPHIC ARTS PROBLEMS CREATED AS NOT ALL PERSONS "SEE" ALIKE. John D. Payne. New England Printer and Lithographer 23, No. 3, April 1960, pp. 39-40 (2 pages). "Whiteness" of paper is explained in terms of ability to reflect light. Variations in this ability can affect the visual stimulus of transparent colored inks (necessary in process color) and even in the case of opaque inks in that the paper is the area surrounding the color. The need for color correction is explained briefly in terms of meeting ink deficiencies, and it is pointed out that improvements in ink color and purity have raised color correction to a level where paper color is becoming more important. Opacity, fluorescent brighteners and costs are discussed briefly.

WHAT DOES THE LITHOGRAPHER EXPECT FROM PAPER AND INK? Willard Greenwood. New England Printer & Lithographer 23, No. 3, April 1960, pp. 58-59 (2 pages). List of 10 things for each covering, for paper: grain direction, good trimming and well piled, right moisture content, no "built-in strains", properly sized, no chemical interference with ink drying, no dust and debris, proper whiteness or color, etc.; for inks: right quantity, proper color, body and tack, strong enough color, good water resistance, proper setting for trapping, not dry in fountain. Some of these points are discussed further.

WEB CONDITIONERS MEET HOWARD SMITH NEEDS. Larry Engel. Pulp and Paper Magazine of Canada 61, No. 7, July 1960, pp. 82-83 (2 pages). Papermaking involves the controlled removal of water to produce a product with certain desired properties. Atmospheric conditions can affect moisture content making it necessary to return moisture content to proper level. A cycle conditioner, supplied by Ross Engineering of Canada, Ltd. has been used to do this and can raise the 4 to 5% moisture content of paper from the machine to 6 to 7% as required by some users. The equipment and its use are described. 3 Illustrations.

CALCULATING INK CONSUMPTION ON CHARTS. Hatsutaro Yamada. Asian Printer 2, No. 3, 1959, pp. 62-64 (3 pages). The factors affecting ink consumption are listed as: (a) area of solid tone printing, (b) number of impressions, (c) quality of paper, (d) printing machine, (e) ink density, (f) number of washups. For calculating, these are reduced to: (a) area, (b) quality of paper, (c) number of impressions. Monograms are described for observing ink consumption from these factors. 4 Diagrams.

OPACITY OF PAPER AND THE FACTORS THAT INFLUENCE IT. Melvin L. McCreary. Gravure Technical Assoc. Bulletin 9, No. 2, June 1960, pp. 30-32, 34-36 (6 pages). Postal regulations and a desire to reduce production costs have increased emphasis on light papers and interest in opacity. Two methods of measuring opacity are explained. The TAPPI method is by contrast ratio of reflectances of paper when backed by black and white backgrounds. Equations relating the various factors entering into opacity are given and various paper making materials examined with their aid. 12 Illustrations.

TOXICITY AND PRINTING INK III - Prepared by the Technical Committee of the National Association, 1440 Bdwy., New York, N. Y. Anon. American Ink Maker 38, No. 7, July 1960, pp. 24-25 (2 pages). This report takes the viewpoint that printing ink cannot be considered a food additive, since it cannot reasonably be expected to become part of the food it is out from under the control of the food additives amendment. However, it is urged, and the Food and Drugs Administration supports this, that a barrier be put between printing ink and food. 6 References.

PRINTING INK VARNISHES -- OLD AND NEW. Dr. Edward Haines. American Ink Maker 38, No. 7, July 1960, pp. 30,1,3,67 (4 pages). Today's varnishes resemble those used in older inks in many ways, and, although new materials offer greater uniformity, the older possess many good properties. In making varnishes, natural products are modified by reactions listed as: isomerization, addition (and splitting), esterification, condensation and polymerization. These reactions with the various natural products are explained. The fossil resins, rosin and some synthetic resins are compared briefly.

OTTERBEIN MIXER TAKES THE CAKE. Anon. National Lithographer 67, No. 7, July 1960, p. 50 (1 page). A story on the use of a 30 qt. food mixer normally used in bakeries and restaurants for the mixing of inks to supply two web offset presses. Advantages are that it makes possible a ready supply of ink, reduces ink inventory, cuts transportation costs and provides customers with an immediate color selection. 1 Illustration.

TALKING TO AN INKMAKER - SECOND OF A SERIES OF CONVERSATIONS. Ellic Howe. The British Printer 73, No. 7, July 1960, pp. 100-103 (4 pages). This installment is devoted to the manufacture of printing ink varnishes. Different formulations, different requirements, different resins are discussed in question and answer form. 3 Illustrations.

THE NPIRI PRINTING WEDGE AS A MEASURE OF THE COMMERCIAL PRINT QUALITY OF NEWSPRINT. S. Steinberg, C. F. Geffken, and W. K. Herrmann. TAPPI 43, No. 6, June 1960, pp. 539-552 (14 pages). Relative print qualities of five newsprints printed under actual production conditions and in the laboratory using a modified NPIRI printing wedge were determined. Overall agreement between the two methods was good as indicated by a correlation coefficient of 0.934. Within individual panels degree of correlation depended on panel experience in judging production proofs. A Latin square experimental design involving five newsprints, five presses, and five runs was utilized in production. The composite of these runs was called a "Master Press Run." In the laboratory white samples were run at five pressures and at a continuous variable film thickness. Thirteen additional laboratory tests were run on the white samples. These were: Chapman smoothness (glass backing and rubber backing); ink strike-in (Kimberly-Clark); Finnish laboratories E test and H test; Bendtsen hardness; Bendtsen smoothness; rotogravure print test; Chandler and Price letterpress test; Bausch and Lomb opacity; PATRA oil test; Ingersoll glarimeter; Bekk smoothness. The E test had the best agreement with the master press runs; the correlation coefficient being 0.964.

LITHOGRAPHY - GENERAL

LITHOGRAPHIC PRINTING OF ALUMINUM FOIL. James T. Trousdale. Graphic Arts Monthly 32, No. 5, May 1960, pp. 80,82,84,86,90,92,94,97,98,100. The growth of lithographic printing of aluminum foil in the last few years is described. Improvements have been made in laminating foil stocks. Suggestions are offered

for handling foil stocks which are available from 25 lb. paper backed to heavy board and up to 52 x 76 in. in size. The printing surface is a nitrocellulose or vinyl type coating. Press adjustments, inks, blankets, plates, drying are discussed and helps given.

LITHOGRAPHIC RESEARCH AND THE PACKAGER. M. H. Bruno. Printing and Graphic Arts #7, May 1960, pp. 17-21 (5 pages). Cited figures show rapid growth of lithography in the packaging field and a number of reasons are given for this, including an active research program. New developments in such areas as plates, dampening, blankets, color reproduction and quality control are listed and discussed. 11 References.

HOW TO REDUCE MAKEREADY TIME ON FOUR-COLOR OFFSET PRESS. Charles W. Latham. The Inland and American Printer and Lithographer 145, No. 3, June 1960, pp. 66,7, 8 (3 pages). Four-color offset press makeready time varies from 2 hours up to 4 to 6 hours. At $60 per hour this can add up. The difference is in methods used and amount of pre-makeready. Some suggestions on improving this situation cover preventive maintenance, proper scheduling, plant and stock control, proper paper and ink selection, spare blankets on hand, proper attention to rollers and wash-up, proper selection and availability of packing sheets, a plate positioning system and proper crew training. 1 Illustration.

HOW THE NEW POLYFIBRON BLANKET HAS WORKED IN ACTUAL PRODUCTION. Anon. New England Printer & Lithographer 23, No. 3, April 1960, pp. 50-51 (2 pages). This new, two-element offset press blanket has been available for small-size presses for some months. A survey of users is presented in question-answer form. Some answers: works equally well with all plates tried; halftones "greatly improved"; good recovery from smashes; "good", "Much better," "excellent" quality of work; extends plate life. Some negative comments were: "no better than a regular blanket," "some trouble with wrinkling and breaking away from the hooks". 3 Illustrations.

GOOD PRACTICES INCREASE LIFE OF OFFSET BLANKET. Charles W. Latham. The Inland and American Printer and Lithographer 145, No. 3, June 1960, p. 68 (1 pg.). In answer to a question about excessive purchases of blankets, the following suggestions on good blanket practices are offered: Use different kinds of blankets for different kinds of work. Use two blankets per unit and alternate them, in some cases as often as once per day. This gives more life per blanket than leaving one on until it wears out. Proper washing extends blanket life. A daily scrubbing with a detergent and pumice is suggested. A proper procedure in case of a smash is offered.

PROPER CARE, MOUNTING AND PACKING HELP YOUR LITHO PRESS BLANKETS. R. R. Lewis. Printing Production 90, No. 10, July 1960, pp. 38-39 (2 pages). "Rules of thumb" are given for choosing blankets for a variety of different conditions, descriptions being given mostly in Shore durometer. In mounting and packing, the use of the LTF blanket packing gage or similar is the most accurate means. Blanket break-in with pumice and water followed by blanket solvent is described. Problems of glaze and low spots are discussed. 2 Illustrations.

THE NEW ERA OF WEB OFFSET. Andrew P. Monroe, Jr. The Graphic Arts Monthly 32, No. 4, April 1960, pp. 66,8,70,2,4 (5 pages). Figures are cited to show the growth of web offset in recent years. In explanation of this growth, the work done by these presses is explained under six categories: 1. Long-run contract printing,

2. Short-run contract printing, 3. Hard-bound book production, 4. General commercial printing, 5. General Commercial Printing (Non-heat-set), 6. Newspapers. Needs for the future include: better dampening, better web control and register, better paper performance, higher speed, low waste. Solution of these problems indicates an unlimited future for web offset.

WHAT TO ADD TO A WEB-OFFSET PRESS. Jack Hodes. The Graphic Arts Monthly 32, No. 3, March 1960, pp. 66,8,70 (3 pages). Author starts with a two unit perfecting type press with a folder and suggests certain extras in terms of what they add to the capabilities of the press. These additions include a dryer, a chillroll system, ink agitators, water fountain supply, a roll handling system, additions to the folder, a sheeter, electric eye register control, and stackers and bundlers. Each is discussed briefly.

NEWSPRINT COLOR BY WEB OFFSET. Wm. E. Mayer, Jr. The Graphic Arts Monthly 32, No. 3, March 1960, pp. 72,4,6, 140 (4 pages). The facilities of the Graphic Arts Research Department of the Rochester Institute of Technology include a web offset press. Work on that press in the area of color on newsprint is described. Other tests include work in cooperation with industry on papers, inks, blankets, and methods.

A NEW WEB-FED OFFSET PRESS. Anon. The Lithographer and Offset Printer, No. 4, April 1960, pp. 16-17 (2 pages). A brief description of a Fruhwald and Jager press. It is a four unit, blanket-to-blanket type with 46 in. web width and 41 in. cut off. Delivery is either sheet or folder. Speed is as high as 15,000 iph with folder delivery. 1 Illustration.

ADDITIONAL COMMENT ON MAGNETIC INK PRINTING. Anon. The American Pressman 70, No. 7, July 1960, p. 22 (1 page). Red, green and brown are now available in addition to black. Some common difficulties are discussed. They are: 1. Voids, 2. Beading, 3. Embossure, 4. Setoff, 5. Weak Signal Strength. Some user reports are given on: Numbering machines (preparation of surfaces to accept ink); Offset plates (pre-sensitized found superior to albumin); Overprinting (magnetic inks would not trap, but could be overprinted with a transparent ink without affecting signal strength); Register (cut large sheets in two to avoid fan out trouble).

MAGNETIC INK CHECK IMPRINTING GAVE US NEW BUSINESS! Douglas E. Webb. The Graphic Arts Monthly 32, No. 8, August 1960, pp. 10,12,13 (3 pages). A story of a printer who investigated the field of the imprinting of personal checks with magnetic inks, found that it looked good, and went into it. Their findings with regard to anticipated volume are quite impressive. An offset duplicator equipped with a program control unit and an optical comparator and a magnetic printing tester for checking purposes were installed. When the equipment was working well, an open house for bankers was used to sell the project. The project was found to be rewarding and to have a large future potential.

MAGNETIC INK ENCODING OF CHECKS. R. Herbert Sinek. The Graphic Arts Monthly 32, No. 6, June 1960, pp. 20,2,4 (3 pages). It is expected that 95% of the larger banks will have switched completely to electronic data processing between 1963 and 1965. The printer will have to give up check printing, go into the new field himself, or farm out that type of work. Some details are given on the testing equipment required to assure acceptable work. 2 Illustrations, 6 References.

QUALITY MEASUREMENT OF PRINTED MATERIAL - Part II. Otto C. Stoessel.

National Lithographer 67, No. 7, July 1960, pp. 30,1,48 (3 pages). Quality measurement factors are: 1. Registration. 2. Color. 3. Lithographic Quality. For (1) register marks are used and limits on misregister stated. Other checks are noted. For (2) ink color should be controlled as described in a previous article. Film thickness in printing is controlled by densitometer measurement with filter specified and standard and limits given. A comparator consisting of color patches can be used during printing but final decision is by instrument. (3) Lithographic quality covers other printed qualities which are classified as minor, major, and critical; and assigned numerical values for grading purposes. The use of the grading method is described. 3 Illustrations.

GRAPHIC ARTS - GENERAL

STANDARD PROOFING INK. Anon. American Ink Maker 38, No. 7, July 1960, pp. 35,67 (2 pages). Specifications are given for standard letterpress proofing inks as set up by a committee representing the National Association of Printing Ink Makers, the American Photoengravers Association and the Magazine Printers Section of Printing Industry of America.

NEW GRAPHIC ARTS USED FOR FIRST TIME. Anon. Graphic Arts Monthly 32, No. 5, May 1960, pp. 216,218 (2 pages). Description of a new art technique called "relief etching" which is capable of being electrotyped and run in quantity by letterpress. An acid proof resist is applied manually by the artist to a smooth copper plate by brush or pen, the plate is etched to produce a relief (rather than intaglio) image. Halftone dots are not used. Colors can be used. Examples of the technique have been used in advertisements run rotary letterpress in mass circulation magazines.

NEW PROCESS TRANSFERS PRINTED INK FROM PAPER TO CANVAS - IN FULL PROCESS COLOR, DOT FOR DOT. Anon. The American Pressman 70, No. 7, July 1960, pp. 30, 32 (2 pages). Describes a double transfer process. The printed image is sprayed over with a thin film of plastic which forms a temporary support. The original paper support is removed then the film supported image is placed on specially coated canvas. Finally the temporary supporting film is removed.

PRINTING ON POLYETHYLENE. Anon. The American Pressman 70, No. 7, July 1960, pp. 33-36 (4 pages). Six commonly accepted methods of printing polyethylene are discussed in this article and several adaptations and modifications are described. Not all of these methods are presently used commercially on polyethylene. However, they are included as potential methods for printing or decorating.

A REVIEW OF PACKAGE PRINTING, 1960 - Part I. L. K. Hanson. Gravure 6, No. 8, August 1960, pp. 28,30,56,7 (4 pages). This first installment explores the changes in the packaging field in relation to general economic and population trends. More self service marketing, spreading to more products is predicted. Competition in the advertising aspect of the package will call for higher quality in design and printing. Packaging materials are discussed briefly.

PART II. Gravure 6, No. 9, September 1960, pp. 34,36,38,58 (4 pages). Clay coatings for boxboard have been improving in response to the demand. There has been considerable growth in solid bleached kraft and similar board giving improved appearance and strength. Author explores the possibility that gravure may enter the metal decorating field. The printing of corrugated is following the trend toward brightly printed readily identifiable containers. Some other steps forward are touched upon.

THE BATTLE OF PACKAGES. Perry L. Smithers. The Graphic Arts Monthly 32, No. 3, March 1960, pp. 18-20,2,4 (5 pages). A story on the growth of the use of packaging, more particularly of folding paper boxes, and of the increased use of multicolor work. Entries in a Folding Carton Competition have been distributed among the various processes as follows:

	1958	1959	1960
Letterpress	78%	72%	64%
Flexography	02%	01%	02%
Gravure	03%	03%	06%
Offset	17%	24%	28%

The growth of lithography is ascribed to a desire for better "good-enough-to-eat" illustrations on food packages such as cake mixes. Four packages illustrated.

THE MAKINGS OF GOOD TYPOGRAPHY. Walter F. Schultz. The Graphic Arts Monthly 32, No. 7, July 1960, pp. 26,28,30 (3 pages). It is estimated that 95% of all of the printing produced is never read. Typography must arouse and sustain reader interest. Some rules governing legibility and readability, such as the relationship to type face, size, spacing, leading and length of line are discussed and reasons given.

POINTERS ON PRESS SELECTION. James H. Hayes. Book Production 71, No. 5, May 1960, pp. 72,3, 97 (3 pages). Each situation must be analyzed in the light of a plant's conditions, present and projected. Letterpress and offset are compared, press sizes discussed, and the use of rotary and rotary perfectors letterpress equipment analyzed. Web offset is being used in printing subscribers sets and will probably get into the workbook field. Web offset and letterpress are compared. 1 Diagram.

STATIC ELECTRICITY . . . ITS ORIGIN, EFFECT AND CONTROL. John T. Davis. Printing Monthly 12, No. 4, July 1960, pp. 7,8,9 (3 pages). Static can cause poor feeding, offset, picking, ragged delivery, sparks and fires, shocks to personnel and many other effects which lead to poor production. A brief non-technical explanation of the origin of static is given. Methods of control mentioned are: Christmas tree tinsel, air blowing devices, anti-static liquids, static eliminating bars and brushes. Each is discussed briefly.

HOW TO DEAL WITH ERRORS THAT ORIGINATE IN COPY. Burton Lasky. The Inland & American Printer & Lithographer 145, No. 3, June 1960, p. 71 (1 page). How to distinguish errors in copy which are serious enough to query, or unimportant enough to disregard? Standards do vary with the nature of the work. In the "serious" class are mentioned: misspellings, grammatical errors, factual mistakes, incorrect cross references; in the "unimportant" class: punctuation, awkward construction, faulty compounding, inconsistent spelling, capitalization and abbreviation. Some examples of permissible spelling variants are listed.

SCIENCE IS REDEVELOPING ALL LETTERPRESS ACTIVITIES. Edward J. Triebe. Inland & American Printer & Lithographer 145, No. 3, June 1960, pp. 82,3, 128 (3 pages). Letterpress is making use of more science and engineering, recognizing that change is necessary to survival. Use of cold composition and flexible plates are only a part of the list of improvements mentioned. A "Letterpress Paper and Ink Chart" (which may or may not be a part of Triebe's article, but on the same page with it) relates 37 different paper stocks with inks suitable for use with them.

WASH-UP FLUIDS. Anon. (With acknowledgments to 'Inklings', Coates Brothers Inks Ltd.). The Lithographer and Offset Printer, No. 4, April 1960, pp. 26,8,30 (3 pages). Washing up is being complicated by new developments in inks, rollers and wash-up devices. Four major reasons for wash-up are given. Then follows a general discussion of various solvents normally used in relation to rollers, inks, and offset blankets. Four dried ink film strippers are also listed.

THE REALITIES OF THE 1970's. Samuel M. Burt. Share Your Knowledge Review XLI, No. 8, May 1960, pp. 3-8 (6 pages). Author quotes some authorities to the effect that "the printing plant of the 1970's will be as different from the printing plant of today as is the printing plant of today different from the days of Johann Gutenberg". Fewer larger plants, better managed and more profitable are predicted. Electronic controls, gauges, charts are technological forecasts. The greater part of the rest of the article is devoted to the selection and training of personnel.

PROTECT PRESSMEN'S HANDS WITH PROPER TYPE OF GLOVES. Anon. Printing Production 90, No. 9, June 1960, p. 80 (1 page). A discussion of the problems involved in relation to the type of glove to provide suitable protection. 2 Illustrations.

MUST LETTERPRESS TAKE A BACK SEAT? J. Russell Parrish. The Electrotypers & Stereotypers Magazine 46, No. 7, July 1960, pp. 14,16-18,20-24,26,28-30,32 (14 pages). Author compares processes from the standpoint of a large circulation magazine printer. Where sharp detail is required, also consistent quality, on long runs, and critical color control at high speeds, letterpress has a strong edge. On short runs, costs favor offset. Web offset loses on paper costs due to waste. The relationship between preparation and running costs for offset and letterpress are shown by charts (without scale to show values) and another chart (also without scale) shows costs vs length of run and the break even point between letterpress and offset. Other charts use 1954 and 1958 Census of Manufacturers figures to compare growth of the three major processes in dollar volume and percentage of total market. New developments in letterpress printing plates are discussed extensively, going into laminated electrotypes, pre-registering, tension lock up, etc. 4 Charts, 6 Halftone Illustrations.

DON'T JUMP - MEASURE YOUR STEPS. Bernard R. Halpern. New England Printer and Lithographer 23, No. 6, July 1960, pp. 49-53 (5 pages). A plea for the use of measurements in printing operations. In addition to the simpler linear measurements of copy, type, forms, etc., author advocates the use of such measurements as those provided by the LTF sensitivity guide, gray scales in halftone work, etc. 9 Illustrations.

A NOVEL CANADIAN EXPERIMENT IN PROOF-READING. M. Jeanneret. Print in Britain 8, No. 3, July 1960, pp. 78-79 (2 pages). The traditional proof-reading methods (comparative and dual) are briefly described and their advantages and disadvantages noted. In a new method developed by the University of Toronto Press the advantages of both are combined. One person reads into a dictating machine, checks proofs on playback. He can dictate spellings, etc. that he knows he will want when checking proof, can also visualize and remember features of copy. Many advantages, including lessened strain and greater speed are claimed. A modified dictating machine for the purpose is described. See Also - Anon - TAPE RECORDERS FOR PROOFREADING - Book Production, September 1960, p. 59.

PRESS DESIGN FOR WRAP-AROUND PLATES. C. W. Latham. Print in Britain 8, No. 3, July 1960, pp. 70-71 (2 pages). Author discusses the problems introduced by the shallow etching of the wrap-around plates and the causes of ink bottoming in those plates. Roller sag, roller whip, ink film split are cited as causes. The answer lies in large form rollers, up to the use of a blanket cylinder riding on bearers as a form roller. Advantages of the letterpress plate over the lithographic plate are in plate life and makeready time, the lack of water, heavier lay of ink, less skill requirement.

HOW MUCH LIGHT IS NEEDED FOR GRAPHIC ARTS PLANTS? Robert C. Rodgers. Printing Production 90, No. 10, July 1960, pp. 30-33 (4 pages). Modern, efficient lighting may increase printing production 10 to 25%, reduce spoilage by as much as 20%. Costs of lighting have decreased. Cost analysis prove that good lighting is sound economy. A table gives "Recommended minimum lighting levels for the printing industry." Another table compares incandescent and fluorescent lamps. Other aspects of lighting are discussed. 5 Illustrations.

PRINTER'S EYE VIEW OF BOOK PUBLISHING. Anon. The British Printer 73, No. 7, July 1960, pp. 66-73 (8 pages). Everyone in the printing industry should know something about the structure and organization of book publishing and about its contribution to the public currency of literacy. Figures are given on new titles released over the years 1938 to 1958. It is pointed out that American publishers are inclined toward fewer titles, but larger editions than British publishers. Some information on book printing is given and a number of British publishing houses reviewed. 16 Illustrations and 1 histogram chart.